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ORIGINAL ARTICLES.

SOME NOTES ON A FAMILY WITH HEREDITARY CONGENITAL CATARACT.

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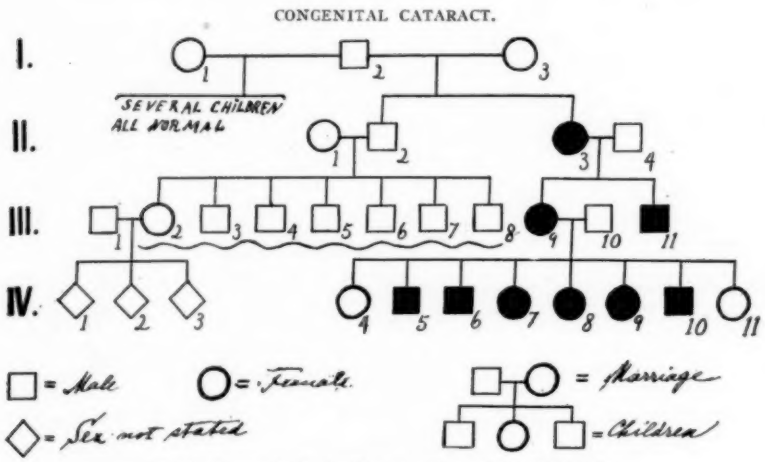
In the course of a more general inquiry into certain problems of heredity, the group history presented herewith came to the attention of the writer. The group consists of a family in which congenital cataract appears in nine members distributed through three generations. Six of the affected individuals have been examined by experienced ophthalmologists, and at least four of them have been operated upon.

Records of somewhat similar cases are to be found scattered through the literature, and here and there an attempt is made to analyze the data that have accumulated. Nevertheless, the questions that are involved are far from being settled and it seems highly desirable that any additional facts bearing on the heredity of congenital cataract should be made available. For this reason the following data are presented.

The members of the family, so far as known to the writer, are indicated and their relationships shown in the accompanying chart in which the conventional symbols are employed. Squares stand for males, circles for females, and diamonds for individuals whose sex was not stated. A horizonal line connecting a square and a circle indicates a marriage and the dependent symbols represent the resulting children. The generations are designated by

Roman numerals at the side and the individuals of each generations are numbered consecutively from left to right irrespective of their relation to each other. In the following account, each person will be designated by reference to his position in the table.

The earliest member of the family concerning whom information has been obtained, was an officer in the civil war. This man, generation I, No. 2, is not known to have had any eye defects. His first wife, I-1, is also said to have been normal. Of this union there were born several children (at least three), none of whom, it is believed, have had cataracts or other serious eye de-



Shaded symbols indicate affected individuals.

fects. The second wife, I-3, likewise seems to have been normal, and an inquiry which her descendants claim to have made several years ago failed to reveal any case of cataract among her ancestors or collateral relatives. By this second wife there were two children, a boy, II-2, born before the war, and a girl, II-3, born in 1861. The former had normal eyes, the latter was afflicted with congenital cataract. The mother died soon after the birth of her second child.

The son, II-2, married a woman, II-1, with normal eyes and had seven children. One of them, a daughter, III-2, is married and has three children. All of these ten descendants of II-2 are said to be free from eye defects. Apparently the tendency toward congenital cataract is entirely lacking from this branch of the family. It might be mentioned here, however, that II-2

shows some indications of mental aberration which find expression in a "wandering" tendency. He is said rarely to stay more than a few weeks in a place, and during the past three years his family have completely lost track of him. It is well known that such a restless disposition is frequently a concomitant of some forms of mental defectiveness. A possible bearing of this point will be discussed below.

The daughter, II-3, also has ten descendants, eight of whom were born with cataracts. She married, first, a man, II-4, with normal sight. He was killed at the age of twenty-four after two children had been born. Both of the children had congenital cataracts. The mother remained a widow for many years, but is now married to a man (not indicated in the chart) who also has defective sight. There are no children by this second marriage. Of the two children from the first marriage, the younger, III-11, died when seventeen years old, the older, III-9, now thirty-one, is married to a man, III-10, with good eyes but possibly somewhat retarded mentally. This union has thus far resulted in eight children, four of whom have died in infancy. Three that died and three that survived were born with cataracts. The oldest living child is now eight, the youngest, one.

The mere presentation of data such as are recorded above is in itself rather striking and perhaps not without value from several points of view, but the writer feels that before real progress can be made in the understanding of the heredity of such a character as congenital cataract, a careful analysis of many cases must be made. An attempt should be made to determine (1) the exact nature of the defect, (2) its origin, (3) its mode of transmission, (4) its variability within the group, and (5) its relation to other peculiarities that the affected individuals may show. Unfortunately adequate data for such an analysis are not often available, and the present case offers only a partial exception to the general rule. Such facts relating to these questions as have been gathered in connection with this family are presented below.

Data bearing on most of these points must be derived from the clinical records. It may be stated at the outset that the term "congenital cataract" is not sufficiently accurate for present purposes, since a survey of the literature shows that several different forms of cataract may be congenital. For this reason some of the clinical histories, otherwise excellent, are not entirely satisfactory. The writer is greatly indebted to a number of ophthal-

mologists and institutions for access to the records of these cases.[1] The histories in abstract are as follows:

II-3. The earliest clinical entry I have found was made in December, 1889, when, apparently for the first time, II-3 had her eyes examined by a competent oculist. The shape and size of the eyes were found to be good and the perception of light was said to be excellent. A marked nystagmus was recorded. The exact kind of cataract is not stated, but in the right eye the center of the lens was clearer than other portions. Vision for the right eye was 1/48, for the left 1/200. The lens of the left eye was needled and subsequently a portion of it removed by linear extraction with the result that a perfectly clear, but not exactly central, pupil was ultimately obtained. The vision was then 3/75. It is noted from time to time that a good view of the disc and vessels was obtained but no mention is made of any abnormality in the fundus. The right eye was not operated upon. (?) This case seems to indicate rather clearly that the trouble is not entirely with the lens. With a clear pupil the vision still remained very low and it seems probable that this fact may be attributed to a functionally defective retina. The patient herself apparently feels that nothing has been gained by treatment.

III-9. The records of the daughter of II-3 are not all available and the original descriptions of her cataracts have not been found. As early as 1892 the right lens was needled at one of the local hospitals. It swelled and left a dense membrane which was also needled "with marked results". Later the other eye was also operated upon and in May, 1898, vision was: right 3/150, left 1/96. References in the various records indicate that this girl and her brother, III-11, also suffered from nystagmus as did their mother. Her eyes were subsequently treated by another physician, who also operated, but apparently no material improvement in vision has resulted. There is still a marked lateral nystagmus in both eyes. In this case again the patient herself

1. The individuals of this family who have consulted oculists have been, without exception, I think, charity patients, and most of them have been examined, at one time or another, by several different oculists. Our attention was first called to the family through the kindness of Miss Annie L. Thomson, a graduate of the School of Social Economy of Washington University. The writer also wishes to acknowledge his indebtedness to Dr. Ewing and Dr. Post, and especially to Dr. Joseph Charles for recently making a re-examination of IV-6 and IV-7, and to Dr. John Green, Jr., for information regarding IV-10 and IV-11.

feels that the treatment has been of practically no avail. She was educated in the Missouri School for the Blind.

III-11. The son of II-3 was examined in April, 1891, when he was five years old. Congenital cataracts were found in both eyes. Oblique illumination showed that the lenses were smaller than normal, the cataracts occupying the center and a cloudiness extending upwards. This would seem not to be the true lamellar form and differs from the mother's lens where the center was clearest. As noted above, nystagmus was probably present. Operation was recommended, but never performed. This child is said to have been small and apparently underdeveloped, but active and restless. He died at the age of seventeen years from "membranous croup".

The remaining cases comprise the fraternity of whom III-9 is the mother. Half of them died in infancy. It may be, however, that the high death rate should be attributed to the rather unfavorable environment in which these children find themselves. With the parents dependent in part upon charity and often scarcely able to secure the absolute necessities, there is in this family the additional handicap of what practically amounts to blindness on the part of the mother. The four living children seem at the present time to be in excellent condition.

IV-4. The first, a girl born eleven years ago, died at six weeks. The cause is given as "feeding". This child was not seen by an oculist, but is said to have had perfectly clear pupils and to have given signs of normal vision.

IV-5. The second child, a boy, born a year later, also died at about six weeks from the same cause. His eyes were not properly examined, but the relatives state that he certainly had the blindness, characteristic of so many members of the family.

IV-6. A boy, born in July, 1905, and now in the Missouri School for the Blind, was admitted to the St. Louis Children's hospital in March, 1910. Cataracts approximating the zonular form were found in both eyes. Apparently the fundus could not be examined at the time owing to the general opacity. The lenses were operated upon during April, and the child was subsequently discharged in good general condition but with no marked improvement in vision. This boy, together with IV-7, was again examined in May, 1914, when it was found that the lenses were still clouded with only a small perforation in each. A satisfactory view of the fundus was not to be obtained. It was thought that vision was slightly better than when the patient was first

seen by the same physician four years ago. Glasses tried helped very little. In looking at objects with either eye separately, an attempt is apparently made to focus on the macular region. There is a nystagmus, chiefly lateral but possibly with an occasional rotary tendency. A few rough tests made by the writer showed that reds and greens were readily distinguished.

While certainly not markedly defective mentally, this child is possibly somewhat "retarded". At school he is regarded as very sluggish and his outlook is not considered as especially favorable.

IV-7. A girl born in July, 1906, and also in the School for the Blind, was admitted to the Children's Hospital at the same time as her brother. She, too, was found to have zonular cataract and the history of her case is essentially the same as his. She also possibly has a slight nystagmus of the same type, but when trying to see, and even when conscious of being observed her eyes often fail to show the oscillations for considerable periods. She also has color vision and good light perception.

This girl is described as very bright, active, and willing. She has already equalled or surpassed her brother in school work. Her prospects are considered as very favorable and she will probably not become a public charge.

IV-8. A girl born seven years ago, died at fourteen months of typhoid fever. She is said to have had eyes affected like her mother's.

IV-9. A girl, born five years ago, died at nine months of marasmus. She, likewise, had the same kind of eye defect.

In regard to these two cases and also IV-4 and IV-5, we have only the statements of the parents to rely upon, but it is not probable that they are in error. On the whole they seem to wish to minimize the importance of their blindness and almost resent the suggestion that it may be hereditary. Ingenious explanations based on the supposed effects of prenatal influences serve them not only to explain the cases in which cataract has occurred, but also the two instances where it did not.

IV-10. The seventh child is a boy, two and a half years old. He was admitted to the Children's Hospital in April, 1913, when he was found to have a dense opacity at the center of each lens. When the pupils were sufficiently dilated he could see around the cataracts. Showed nystagmus "when he tried to look at objects—this is probably to get a better vision". Wassermann reaction was negative. A month later he was discharged, not hav-

ing been operated upon owing to influenzial infection, slight conjunctivitis, and rather poor general condition. The Social Service Department had found a temporary home for him, but the woman with whom he was placed would keep him only two days because of his constant crying and "sore eyes". Consequently, he was returned to the hospital, where he remained for nearly another month, at the end of which time he was discharged, well except for the cataracts. The child was again examined recently, and the cataracts were diagnosed as lamellar. In regard to the nystagmus, it was found that there were "lateral rolling movements which vary in amplitude and rate, at times ceasing altogether". The examiner suggests that they might reasonably be called "nystagmoid". They differ from the typical rapid tremulous oscillations seen in the mother.

This child appears rather stupid, but it may easily be that his retardation, if any, is due entirely to the defective vision. The same excuse could not be offered for the older brother, who has competed unsuccessfully with an equally handicapped younger sister.

IV-11. The youngest child is a girl one year old. She was examined at birth and again recently. On both occasions her eyes were found to be normal. In this case we seem to have an individual who has escaped completely. There is neither cataract nor nystagmus, and the baby appears bright and alert, apparently a normal child.

It will be apparent from the foregoing that the nature of the cataracts in the three cases that died is entirely unknown, and that the statements are not entirely clear in some of the other instances. Consequently, the extent to which it has varied within the family cannot be definitely settled. The evidence, so far as it goes, however, does not show that there is any marked departure from a common type. Corraliform, polar, or punctate cataracts are not mentioned in the histories. While some, and perhaps all, of the cases, except possibly IV-10, might not be regarded as typical lamellar cataracts, they do seem to approach this form more nearly than any other. The lamellar cataract is one of those which von Szily[2] considers as not hereditary, being due, according to that author, to inflammatory

2. A. von Szily, Jr.: Die entwicklungsgeschichtlichen Grundlagen für die Erklärung der kongenitalen Katarakte. Bericht über die sechsunddreissigste Versammlung der ophthalmologischen Gesellschaft. Heidelberg, 1910.

or other disturbances during intra-uterine life. Nettleship[3] also states that "Lamellar cataract usually affects only one member of a family or stock." "But," he continues, "exceptions to the rule are not very rare." He then cites several families in which the affection is transmitted through two or more generations, in some instances by the father, in others by the mother.

The fact that so-called lamellar cataracts sometimes occur sporadically and at other times are clearly hereditary, suggests the possibility of there really being two kinds: one having the origin suggested by von Szily, and consequently sporadic; the other being due to a more or less general anatomical or functional heritable imperfection of the lens. The latter might perhaps be less "typical" than the former. If indeed there really are these two kinds of lamellar cataract, it would be of much interest, and possibly of eugenic importance, to know if they can be differentiated by inspection.

In short, the provisional answer to the first and fourth questions mentioned above is that, so far as the data show, we seem to be dealing with a cataract which resembles the zonular form and which shows more or less fluctuation in the individuals within the group, without, however, approaching any of the other ordinarily recognized types.

It would be of considerable theoretical interest if the embryology of hereditary congenital cataract were known. The writer has not learned of any studies on human material bearing on this point. In the case of two or three of the lower forms, however, some interesting observations have been made. A few early observers noticed an occasional incomplete or irregular separation of the lens vesicle from the surface ectoderm in chick embryos and it was naturally suggested that such an abnormality might ultimately result in the formation of a cataract. More recently von Szily[4] described and figured stages in certain chick embryos where in the formation of the lens, a little fold of the amnion, which at this time closely invests the head, was drawn into the lens cavity and inclosed there. The cells, it is stated, did not degenerate at once but continued to proliferate for some time. It is not clear from the account whether in such cases as were described the amnion was less copious than normal. If so,

3. E. Nettleship: On Heredity in the Various Forms of Cataract. The Royal Ophthalmic Hospital Reports, Vol. XIV. Part III. 1905, and Part IV. 1906.

4. Anatomischer Anzeiger. Heft, 1906.

the cataract might be regarded as due in reality to an imperfectly developed or retarded amnion, in which case it would be easier to understand its hereditary character.

In a later paper von Szily[5] described the development of hereditary cataract in rabbit embryos obtained by mating a cataractous male with ordinary females. Most of the young were affected. Here, also, the cataract was traced to a group of cells within the lens cavity, which proliferated for a while and then degenerated, setting up a sympathetic degeneration in the surrounding lens tissue. It is suggested that from such formations may be derived the coraliform, anterior and posterior polar, and congenital punctate cataracts.

Whether or not a similar explanation would account for the cases reported in this paper cannot of course be answered. As indicated above, however, apparently the retina is also defective, and such is said to be frequently the case with congenital cataracts. In such cases it is often assumed that the amblyopia is due to the retina never having functioned properly, and consequently remaining undeveloped, or, on the other hand, to a direct reaction of the lens upon the retina. It seems to the writer that still another possibility exists. It has been shown, especially by Lewis,[6] that, in the amphibia at least, the lens forms only when the ectoderm is stimulated by the optic cup, which is the outpocketing from the primitive brain vesicle from which the retina ultimately develops. If the optic cup is removed, no lens develops, but if it is transplanted to different parts of the body, lenses can be induced to form in very anomalous positions, even from the ectoderm of the abdomen. Now, since the lens seems to owe its very existence to the stimulus of the optic cup, it is quite conceivable that a slightly abnormal stimulation of the ectoderm might react unfavorably upon the lens that results. If such be the case, the cataract may often be only an incidental expression of a more deep-seated defect in the optic cup and retina, when it becomes easy to understand why in some cases operations on congenital cataracts may give fairly good results, while in others the improvement is but slight, even under the best of treatment. Statistics showing whether "sporadic" cases of congenital cata-

5. Bericht der ophthalm. Gesellsch.; loc cit.

6. W. H. Lewis: Experimental Studies on the Development of the Eye in Amphibia. Amer. Jour. Anat., Vol III. 1904, and following. See also C. R. Stockard: The Embryonic History of the Lens in Bdellostoma stouti in Relation to Recent Experiments. Amer. Jour. Anat., Vol. VI. 1906-1907.

ract are likely to yield better to treatment than do those known to be hereditary would be of value in this connection.

So far as this family goes, there seems to be a direct transmission of the defect, or in other terms, the character behaves as a mendelian dominant. Such appears to be usually, though perhaps not always, the case with hereditary congenital cataract. The number of cases in the present instance is too small to warrant a discussion of the proportion of normal and affected individuals. A point of much interest is the origin of the first case. If we may rely on the statements of the family it appeared *de novo*. Whether the tendency had been passed along, perhaps for many generations, in a "latent" form, or whether the first case resulted from an unfavorable combination of factors which have since remained associated, or, again, whether or not it resulted from a true germinal variation, cannot be settled from the data at hand.

The two other peculiarities that have been noticed in this family are an occasional slight mental retardation and nystagmus. The question of their relation to the cataract is one of importance, but unfortunately not easily answered.

There is a rather prevalent view that mental abnormalities and eye defects are often closely related, a given member of the affected family being likely to have either one of the other, or, less often, both.[8] So far as the present family goes, I think there is no indication of any relation between mental retardation and cataract. As stated above, the cataract has behaved as a mendelian dominant. Various forms of mental defect have been shown to be mendelian recessives.[9] In this family, II-2 is thought to be defective. If so, there is a fair chance that the mentally normal sister and niece might carry the defect (i.e., be "simplex" in regard to this character). If now, the niece, III-9, is married to a somewhat defective man, as seems to be the case, some of the children might be expected to be retarded. This expectation seems likely to be realized in the case of IV-6, and possibly IV-10. IV-7 and probably IV-11 are fully up to the normal in mentality. One has cataract, the other has not. In

7. See Nettleship, op. cit., and also Clarence Loeb: Hereditary Blindness and its Prevention. Annals of Ophthalmology, 1909.

8. In this connection see E. J. Lidbetter and E. Nettleship: On a Pedigree Showing both Insanity and a Complicated Eye Disease: Anticipation of the Mental Disease in Successive Generations. Brain, Vol. XXXV. Part III. 1913.

9. See C. B. Davenport: Heredity in Relation to Eugenics. N. Y., 1911, and also special articles by H. H. Goddard, Davenport and others.

other words, these two traits are behaving quite independently of each other.

A family history like the present suggests this rather important sociological consideration, namely, that it would seem probable that various kinds of hereditary defects must tend to accumulate in certain families. A mental defective is probably more likely to choose a blind partner than a more alert individual would be, and, moreover, the marriage chances of almost any kind of an afflicted person must be rather more limited than are those of normal individuals. Figuratively speaking, by a concerted effort various kinds of defects are likely to join forces to eliminate themselves by gradually settling on a few individuals who must ultimately succumb. Perhaps, if this imagined process is really in operation, it is to it that we must look for an explanation of some of the puzzling instances where there seems to be a common but more or less irregular association of several distinct types of afflictions. Such an explanation, however, obviously could not apply to the many cases of correlated affection where the several manifestations are simply different expressions of a single deep-lying fault.

Whether or not the co-existence of cataract and nystagmus should be considered as coming under the latter class, it is difficult to say. It seems to be generally admitted that nystagmus may sometimes be acquired as a result of unfavorable conditions of the eye, but that on the other hand it is frequently due to disturbances of centers within the brain.[10] Loeb, in his extensive paper on hereditary blindness,[11] finds nystagmus directly inherited, with or *without* other eye defects, in 26 out of 56 children, one or both of whose parents were affected. This is nearly one-half, 46 per cent. Nettleship also presents evidence that nystagmus is inherited as an independent entity. Whether its association with cataract is more frequent than the laws of change would lead one to expect, cannot be stated, although probably such is the case.

It is doubtful if IV-10 and possibly even IV-7 show anything more than an acquired nystagmus or "nystagmoid" movements of the eye, but this cannot be said of the other cases mentioned above. The writer feels that in this family the nystagmus is, in part at least, clearly hereditary, though not transmitted alike to all the children.

10. See J. Igersheimer: Ueber Nystagmus. Klinische Monatsblätter für Augenheilkunde. Bd. LII. 1914.
11. Loeb: op. cit.

In summarizing, it may be stated that in the single family reported in which there occur congenital cataract, nystagmus and mental retardation, all of these characters seem to be inherited more or less, or perhaps quite independently of each other, and it is suggested that in the analysis of similar group histories, care should be taken to clearly distinguish the separately heritable units. In the latest generation of this family, one apparently normal child has been produced. If this child ultimately has offspring, it is probable from analogy that they will be normal. What action, if any, society would be justified in taking in regard to the other three, at least half of whose descendents, as Loeb has shown,[12] may be expected to be handicapped by congenital cataract, is a sociological question that cannot be discussed here.

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12. Loeb: op. cit., p. 13.

GIANT CELL SARCOMA OF ORBIT.

By Harry Friedenwald, M.D.,
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Cases of this form of sarcoma are very rare.

In 1905 Fleming and Parsons (*Trans. Oph. Soc. United Kingdom,* Vol. XXV.) reported a case of a woman aged 54 who presented a swelling projecting from below the outer two-thirds of the left upper orbital margin; distinct fluctuation can be obtained at one spot, but the swelling as a whole feels solid. The eyeball is displaced downwards, forwards and inwards and could not be fully raised. Preauricular gland not enlarged. Vision 6/9. Disc and fundus normal.

"The tumor was removed through an incision along the margin of the orbit. The roof of the orbit appeared to be invaded by the growth, and was scraped.

"*Macroscopic examination.*—The tumor was prismatic in shape, measuring 35 mm. by 15 mm. It was chocolate-colored. The anterior surface was smooth and showed a small cystic cavity. The upper and posterior surfaces were rough and granular.

"*Microscopic examination.*—The tumor was a typical giant-celled sarcoma. It was highly cellular, and contained a very large number of giant cells, having their nuclei massed in the centre of the cells. The growth was pervaded with hæmorrhages."

They add:—"It will be noticed that this tumor has all the cardinal features, both macroscopic and miscroscopic, of a myeloid-sarcoma. We have been unable to find any previous record of a giant-celled sarcoma affecting the orbit, and therefore report the case on account of its rarity."

I wish to record the following case:

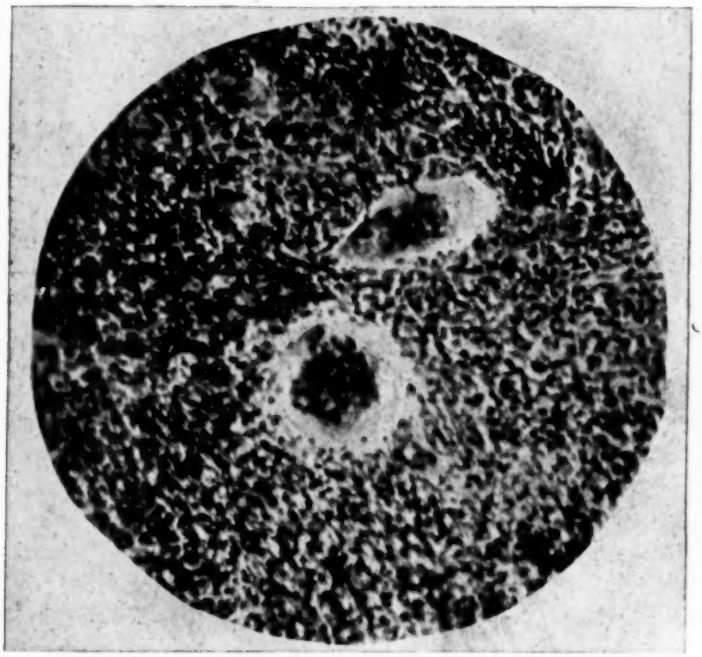
Mrs. D., aged 54, was admitted to the Baltimore Eye, Ear and Throat Charity Hospital on September 2, 1909.

History.—First noticed a small growth in upper lid of right eye during previous May. It has grown steadily since then; no pain. The eyelid cannot be opened sufficiently to determine the visual acuity. The neoplasm is a large, firm growth adherent to the lid and extending back into the orbit in the region of the lacrimal gland. There is no involvement of the preauricular glands.

Diagnosis.—Malignant growth of lacrimal gland and removal

advised. On September 21, 1909, the tumor was removed under anæsthesia. Was found adherent to the periost of the orbital roof and to the tarsus, so that the greater part of latter had to be sacrificed with the overlying skin and only a small part of the inner portion of the lid was retained. Thus about one-half of the margin of the lid was lost.

In order to supply a new lid an incision was carried obliquely from the inner canthus upwards and inwards, beginning just outside the upper punctum lacrimale; the portion of the lid re-



Giant Cell Sarcoma.

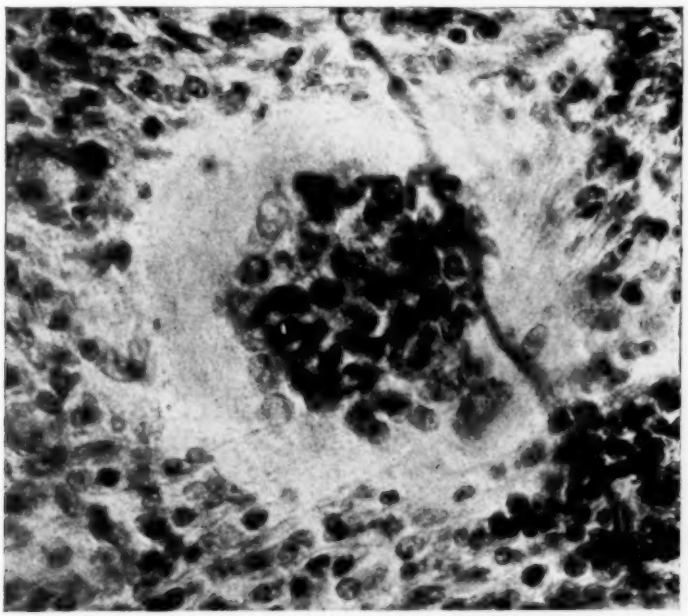
maining was slid over the defect and sutured to the outer edge of the wound, closing the wound and making the outer part of the new lid margin out of the part saved from the inner half and the new inner portion from the upper edge of the incised wound near the inner canthus. The recovery was uneventful and a good cosmetic effect obtained.

The pathological examination of the tumor was made by Dr. Standish McCleary whose report is as follows:

"The tissue submitted for examination consists of the outer

portion of the upper eye lid and a mass of attached retrotarsal tissue. The lid is 2 cm. wide by 1 cm. thick and the attached tissue is 1 cm. by ¾ cm.

Microscopic structure.—The tissue from the lid shows a few normal Meibomian glands but the majority have disappeared as the result of the infiltration of the neoplasm. Some fibres of the orbicularis palpebrarum can still be made out. The tarsal plate cannot be distinguished. Practically the whole of the section is composed of a very cellular tissue, the most conspicuous feature of which is the great number of giant cells myeloplaxes. These



Giant Cell Sarcoma. Higher magnification.

cells average about 50 μ. (micro-millimeters) in diameter, a few being much larger and contain many nuclei, which are either centrally clumped or diffusely scattered through the cytoplasm which is distinctly oxyphilic. The myeloplaxes are the most conspicuous but by no means the most numerous cells in the tissue, for they are imbedded in a matrix consisting of small, round and spindle cells and a small amount of fibrous stroma. The bloodvessels are plentiful and frequently present atypical walls consisting solely of endothelium. The cells of the growth are in immediate contact with the vessels.

"The orbital tissue shows the lacrimal gland which has not been infiltrated by the tumor cells. The type of tissue is similar to that described in the lid but the invasion seems to be forward along the superior palpebral ligament into the lid rather than backwards towards the apex of the orbit.

Diagnosis.—Giant cell sarcoma, originating in orbital periosteum. Such tumors are most frequently found arising in the marrow of long bones, hence the term giant cell myeloma, but they often spring from periosteum, as is frequently illustrated by the giant cell epulis of the maxilla. The giant cells or myeloplaxes are normal constituents of the bone marrow, but under pathological conditions are produced by the periosteum. Usually tumors of this type have a very low grade of malignancy as there is little tendency to recurrence and metastasis, except in those cases in which there is a great abundance of small round cells, which by proliferation confer the malignant features upon the tumor. The growth in question possesses more round cells than are usually encountered in those tumors in which we confidently expect no recurrence, and it will be interesting to watch the subsequent history of this patient."

On recent inquiry (May, 1914) I learnt that the patient is still in good health, has had no recurrence of the growth and the vision of the right eye is as good as that of the left.

BINASAL HEMIANOPSIA OCCURRING IN THE COURSE OF TABETIC OPTIC ATROPHY.

Charles R. Heed and George E. Price (*Jour. A. M. A.*, March 7, 1914) report a case of binasal hemianopsia observed in a man 48 years of age who presented certain definite symptoms of tabes, optic atrophy being among them. They agree with those who hold that nasal hemianopsia cannot be caused by a lesion in the chiasm. Reference is made to a number of cases of binasal hemianopsia which were believed to be of central origin, but from a study of the cases recorded it is evident that the ocular symptom is the result of more or less symmetrical lesions of the optic nerves in the majority of cases, as in fifteen out of twenty-one cases reported the symptom could be traced to optic nerve disease. They believe that in their cases the binasal defect in the visual fields was the result of selective atrophy affecting the intracranial portion of the optic nerves.

HÆMANGIOMA OF THE EYELID.*

By Adolf Alt, M.D.,
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Hæmangioma of the eyelid is a rare affection. In forty years of ophthalmic practice I have not had occasion to treat more than about a dozen cases, all except one occurring in children.

Hæmangiomata are congenital malformations consisting of abnormally placed and closely packed, or enlarged, bloodvessels. According to the character of the bloodvessels composing the tumor we speak of a teleangiectasia or a cavernoma of the eyelid.

The teleangiectasia consists of innumerable densely packed small bloodvessels, which are not exactly capillaries since they have a thicker wall, nor can they with certainty be designated as arteries or veins. Such a tumor has usually a lobulated appearance, due to numerous connective tissue septa which traverse it. When all the blood in the tumor has been lost during its removal it is sometimes hard in places to recognize the single fine bloodvessels of which it is composed. Yet, a careful inspection will disclose the true nature. According to Ogawa (*Virchow's Arch.*, Vol. CLXXXIX, part 2 and 3) these tumors grow not by the growing out of side branches, but by a continued growth in the length of the preformed vessels, gradually pushing the surrounding tissues aside.

The cavernoma shows a different arrangement. Instead of innumerable fine bloodvessels, we find in these cases large and larger cavities containing blood, separated by thin connective tissue walls, lined with endothelium. Such a tumor may even sometimes, as in one of my cases, represent only one large and continually enlarging cavity. In such cases the previous septa have probably given way to the pressure.

Hæmangiomata may be confined to the skin of the lid, or they may lie in the subcutaneous tissue, and in other cases may reach back into the orbit. Sometimes they spread over the neighborhood, into the eyebrow or towards the temple.

The growth of these tumors may be slow, sometimes they increase very rapidly in size.

Teleangiectatic tumors (See Fig. 1) usually appear as reddish blue smooth or lobulated swellings, while the cavernomata are

*Read at the meeting of the St. Louis Ophthalmological Society, April 27, 1914.

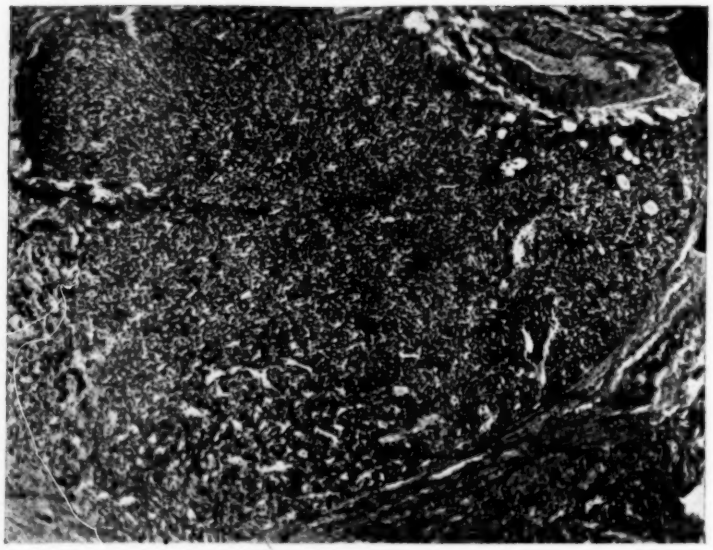

FIG. 1

more bluish or purplish. These swell up as soon as by some means the reflux of the venous blood is interfered with, as by coughing, hanging the head down, etc. It is usually, also, possible to reduce their size or even sometimes to empty them by pressure. As soon as the pressure is released they fill up again. (See Fig. 2.)

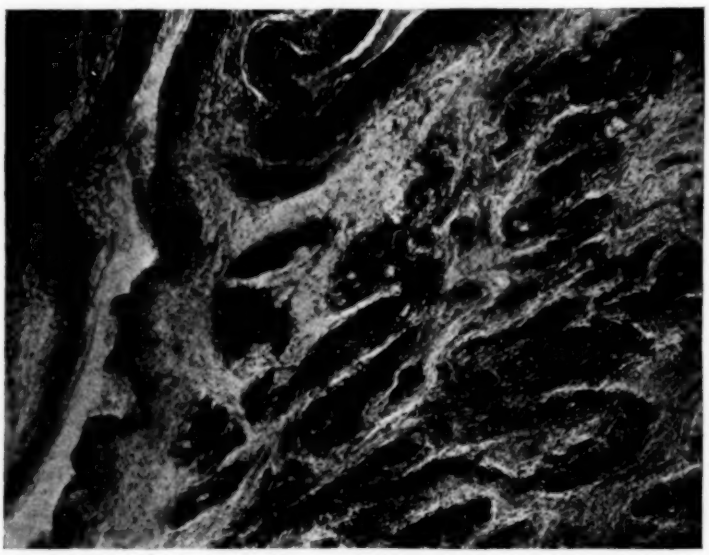

FIG. 2

While such tumors may be of comparatively little importance in other parts of the body, they are a decided blemish in the face. When situated, as they usually are, in the upper eyelid they have the further great disadvantage, that they interfere with vision and may cover the eye altogether.

It is, therefore, best to remove them as early as possible. The question is only what is the best and least destructive method to do so.

In 1876 (*Arch. of Ophth. and Otol.*, Vol. V., parts 3 and 4) H. Knapp took occasion to forcibly insist on the excision of hæmangiomata of the eyelid, which he thought was not practiced by most surgeons on account of fear of severe and dangerous hæmorrhage. In this paper he related a number of cases in which he had successfully performed the operation. Hæmorrhage was prevented in a large measure by Desmarres' or his own lid clamp, or by a large hornplate introduced under the lid so as to compress the tumor against the orbital wall.

Having assisted Knapp at several of such excisions, I followed his teaching in my own practice until recently. As a rule, I succeeded in removing the whole tumor mass, and the results were absolutely satisfactory, except in one case in which a relapse occurred within a few months, necessitating a second operation, which proved successful.

In none of the cases in infancy and childhood which I have seen and operated on was there any need of a plastic operation after the removal of the angioma.

It was different in the case of a young lady who was brought to me for consultation a few years ago, and who was afflicted with a cavernoma of the left upper eyelid which took up almost the whole of the lid and was extremely disfiguring. It had been operated on some years previously and had relapsed. Then it had been subjected to electrolysis, but to no avail. I advised excision and a plastic lid operation. The surgeon who started to do the operation under my guidance was rather slow and the hæmorrhage became so dangerous that I finished the operation, leaving a part of the lid margin on the temporal side included in a sliding flap. Whether this was the cause of future trouble or not I do not know. Yet, while the immediate result was very gratifying, I met about two years later in a street car a badly disfigured lady, whom I recognized as this patient by a relapse which was almost as bad as the tumor I had removed. This, of course, was a complicated case. In the cases which have not been pre-

viously subjected to any treatment it is usually possible to remove the tumor as a whole and thoroughly. Moreover, the scar caused by the operation is generally small and in no way disfiguring.

Yet, if there are means to produce the shrinkage and disappearance of such tumors without any scar at all, it is better to use such means.

Cautery and electrolysis, from what I have seen out of the hands of others, do not fall under this head. The more modern methods of treatment consist of injections into the tumor of boiling water or absolute alkohol, or freezing the tumor with carbon dioxide snow.

This latter method I have used in the following case:

Mary B. N. was given into my care when she was five months old. She had come into the world with a small reddish spot on the right upper eyelid near the nasal canthus. This spot had grown in size ever since, and when I examined her was a reddish blue tumor situated under the skin of the upper eyelid. It was largest, the size of a hazelnut, close to the nasal canthus and gradually tapered off toward the temporal side, leaving about a fifth of the lid free. The child could not raise the lid and the pupil was continually covered. The tumor was slightly compressible. The parents did not like the idea of an operation, fearing that the little girl might be disfigured for life by a scar instead of a tumor. So I decided to try injections of absolute alkohol, being afraid of employing boiling water so close to the eyeball. Two injections of a few minims of absolute alkohol into the largest part of the tumor seemed, however, to produce so little effect, that I changed off to freezing the tumor with carbon dioxide snow, and the result has been very gratifying. To be sure, this is not a quick method, but seems effectual and leaves no scar.

In the March number of this year of the *Archives of Ophthalmology,* Lemere reports a case of such a tumor which was larger than the one I just referred to and reached upwards beyond the brow, in which he succeeded admirably by using injections of boiling water and absolute alkohol, which he made twice a day at first, then once a day, and later followed up by injections of alkohol alone at longer intervals. The tumor had disappeared in a little more than a year.

In my case I have frozen the tumor twenty-one times within a little more than a year. At first I froze it for 20 or 25 seconds,

which procedure produced very considerable reaction and several times the formation of a large vesicle. I waited every time till the reaction seemed to have exhausted itself. Gradually I increased the time of applying the snow and the last few times applied it for a whole minute. There is no longer anything to be felt of a tumor, yet the nasal part of the lid is to a small extent evidently without tarsal tissue and also is devoid of cilia. This part still has not receded to its normal position, yet the child's eye is wide open and the result is good.

From this experience it seems to me that the carbon dioxide method is probably the one which should be used with preference.

OBITUARY.

Emil Gruening, 1843-1914.

Emil Gruening, M.D., College of Physicians and Surgeons in the City of New York, 1867; a veteran of the Civil War; and a pioneer ophthalmologist and otologist of New York City; died at his home, May 30, from cerebral endarteritis, aged 71. Dr. Gruening was appointed assistant surgeon to the New York Ophthalmic and Aural Institute in 1871; ophthalmic surgeon to Mt. Sinai Hospital in 1879, and to the German Hospital in 1880. At the time of his death he was consulting ophthalmic and aural surgeon to Mt. Sinai Hospital; consulting ophthalmic surgeon to the German Hospital and New York Eye and Ear Infirmary; and consulting surgeon to the New York Infirmary for Women and Children. He had served as president of the American Ophthalmological Society, American Otological Society and Society for Relief of Widows and Orphans of Medical Men; he was also a member of the American Laryngological, Rhinological and Otological Society, and many other scientific bodies. Among his most notable achievements were the development of the mastoid operation, and his warning regarding the danger of blindness from the use of wood alcohol. He was a voluminous contributor to the literature of his specialty; and was the author of a chapter in Norris and Oliver's encyclopedia of Diseases of the Eye.

MEDICAL SOCIETIES

FIFTIETH ANNUAL MEETING OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

HELD AT HOT SPRINGS, VA., MAY 12 AND 13, 1914.

Reported by Miss Lulu Gay, Philadelphia.

A New Operation for the Removal of Pterygium, True or False, and for Other Growths at the Sclero-Corneal Junction.—DR. CHARLES H. BEARD, Chicago, Ill.

This procedure is peculiarly adapted to pterygia and pseudo-pterygia of median and large dimensions, as also to tumors that involve the tissues over, and on either side of, the sclerocorneal junction. The principal points in the technic consist of two radial incisions of the conjunctiva, one on either side of the growth, tunneling under between the two, shaving the growth from the cornea, the undermining of the flap thus formed, the abscission of the growth (or of the head of the pterygium), and the formation of two lateral, sliding flaps of conjunctiva. These flaps are so fashioned that, when brought together, they cause a bridge of perfectly smooth conjunctiva to intervene between the cornea and the retracted body of the pterygium. There is a minimum sacrifice of conjunctiva, much less than in transplantation methods. The drawing or stretching of the conjunctiva towards the cornea, which when the pterygium is inward, for example, obliterates the semilunar fold and pulls the caruncle over on to the globe, is corrected by this measure and is not by transplantation. Three fine sutures are required, and are placed in a manner that effectually prevents the conjunctival bridge from creeping up on the cornea.

A New Operation for Capsulo-Muscular Advancement Combined with Partial Resection.—DR. S. LEWIS ZIEGLER, Philadelphia, Pa.

This operation combines the advancement of both capsule and muscle by means of a strongly anchored suture, a partial resection of the muscle by scissors or punch, and the folding of

the remaining central fibers into a small tuck, which avoids a thickened and unsightly knuckle. As the sutures are laid over the conjunctiva, all the tissues are held quite firmly during the process of healing.

DISCUSSION.

DR. LUCIEN HOWE, Buffalo, N. Y.: I have found that there were difficulties regarding fixation. I have come back to the plan advocated a number of years ago, of making the attachment to the tendon of the superior and inferior muscle. The fixation is absolute, in the first place; and secondly, we can adjust it as we wish after the operation.

DR. W. H. WILDER, Chicago, Ill.: I think that the cardinal principle of all single-suture operations is wrong. If you figure out the lines of force you cannot help but believe that the tendon will be crumpled, instead of being spread out. I cannot see any way to spread the tendon out and give it wide attachment, except to have at least two stitches; one at the edge, with the points diverging, instead of converging. This will tend to relieve any hyperphoria that may be present. In any operation for exophoria it is well to have two sutures, or even three: one, to form the central point of attachment of the tendon, and two lateral ones.

DR. CHARLES H. BEARD, Chicago, Ill.: I have been doing a single-suture operation for over twenty-five years, and have demonstrated at the finish of the operation, in case after case, that the tendon was spread out.

DR. JOHN E. WEEKS, New York City: It has been my experience that when I have dissected up the attachment of the muscle, I have found it to be much contracted in cases in which single sutures were employed. The operation certainly has that fault in some cases. The single principal suture may be employed as in the Reese resection; and if lateral sutures can be put in, the muscles can be separated so that there will not be the attachment that is obtained in some cases of single-suture operations.

DR. ZIEGLER (closing): The single-suture is just as valuable a way of pulling the muscle forward as if you used a dozen. It makes no difference how many sutures you use, provided you get traction. If you wish to make the traction wide and spread out the muscle, you can enter the needle as high up as you choose, come down through the conjunctiva and sclera and emerge near the median line, thus spreading out the muscle as much as you like.

Almost all muscles are crumpled to a certain extent. You cannot keep them on a tension. These little muscles are so thin and delicate that it makes no difference how they are folded, unless the fold makes a knuckle. You have to use ice compresses for a number of days, in order to get the tissues to heal quietly.

Hyperphoria is better corrected by its own operation of partial tenotomy.

Sclero-Corneal Trephining for Glaucoma. Complications and Failures in One Hundred Cases.—DR. ALEXANDER QUACKENBOSS, Boston, Mass.

This operation is best adapted for cases of simple chronic glaucoma. The operation can be performed with little danger; an iridectomy should be done, if possible; the conjunctival flap should be sutured, and a sharp watch should be kept for iritis. Late infection is a serious danger.

Trephine Operation for Glaucoma. Late Infection from an Acute Conjunctivitis.—DR. MYLES STANDISH, Boston, Mass.

The operation of trephining for glaucoma was done December 17, 1913. On February 21, 1914, the patient had an acute conjunctivitis and was seen by me on the fifth day. At that time muco-purulent conjunctivitis was present. The bleb over the opening at the sclero-corneal margin was filled with a solid-looking yellow mass. There was hypopyon. The process subsided, leaving an opaque exudate on the posterior capsule of the lens with a flattening of the conjunctival bleb over the opening. Tension was not increased.

DISCUSSION OF DRS. QUACKENBOSS' AND STANDISH'S PAPERS.

DR. ALLEN GREENWOOD, Boston, Mass.: I have used a 1½ mm. trephine almost exclusively, and find that I can do a complete iridectomy in a minute and a half. In one or two cases I have used the 1 mm. trephine. The bleb, in the case reported by Dr. Quackenboss, was right over the trephine opening, and was one of those very transparent looking blisters. I think that cases like this are the ones in which the after conjunctivitis may occur from infection, and in which there is the probability of late infection. Such patients must be watched with great care.

DR. HOWE: I thought it worth while to bring here a trephine

which I have had for twenty years or more. Although the form is a little different from the trephines now in use, the principle is the same. It winds up in the usual way, and it is only necessary to press slightly with the finger in order to make the revolutions.

Dr. Walter L. Pyle, Philadelphia, Pa.: I believe thoroughly that the eye tension is not the whole of glaucoma, and that there should be a modification of our recommendation of those simpler operations for eyes that show increased tension. For fifteen years, I have practised massage in so-called cases of glaucoma with hard eyeballs. Eyes that soften quickly under my fingers, I do not operate on.

Dr. Ziegler: I think that we ought to introduce a suture in any operation wound of this character or any conjunctival wound. This question of plastic iritis occurring in late closure of the wound is a very important one, and is difficult to explain. It occurs as well in the Lagrange operation. In this connection, I should like to show a small trephine that I use. It is dumb-bell shaped and has the bevel and a reversed bevel above. You cannot slip your finger either way. Dr. Strawbridge, of Philadelphia, when I was interne at the Wills Eye Hospital, trephined many scleras, not only for glaucoma, but for the perforation of an artificial pupil and other purposes. In many of these hæmorrhagic cases, it is not always possible to trephine and avoid hæmorrhage. Negative galvanism will take down the tension promptly, and hold it down; but the remedy that I rely on most is the injection of hyoscin, pilocarpin, morphia and strychnin, hypodermically. This by its action, controls the tension systemically.

Dr. Brown Pusey, Chicago, Ill.: Dr. Quackenboss says that in one case that went wrong there was a hernia of the lens. I have wondered whether it would not be possible in such cases, to relieve the glaucoma by a second operation.

Dr. Weeks: I have operated by the Elliot method on perhaps twenty-five or thirty cases only. The occurrence of iritis has been very little in my experience. I have not had any infection of the eye. I have had one case of hæmorrhage in a patient with a tension of thirty-seven before the operation. It has occurred to me that the trephine opening is sometimes larger than is necessary. I think that the larger the opening the more danger there is of pushing forward the intraocular tissues into the trephine opening. I have used sutures in all but two or three cases.

I feel that it is safer to use the suture. I have not had any post-operative infection. In the early cases where the iris is bound down, it seems likely that a change in the aqueous has much to do with it. In the later cases, it probably comes from endogenous or exogenous infection.

Dr. E. C. Ellett, Memphis, Tenn.: Aside from the clinical results, which it is not so difficult to interpret, it is hard to see how this operation brings about the permanent reduction of tension that it does.

Dr. Samuel Theobald, Baltimore, Md.: In inflammatory glaucoma, we obtain satisfactory results from iridectomy. In simple glaucoma, we know that this is not true. The outcome of an iridectomy in pure simple glaucoma is, as a rule, unsatisfactory. There seems to be little warrant for using Elliot's method in cases of inflammatory glaucoma. I can see no advantage in making a triangular peripheral cut in doing the complete iridectomy. In the cases that I saw done by Elliot, there was more inflammatory reaction following the trephine operation than one sees following iridectomy in glaucoma simplex; and there seemed to be inflammation of the iris in the neighborhood. I cannot see any advantage in the big trephine that Col. Elliot uses. The smaller one is easier to manipulate and more delicate.

Dr. J. M. Ray, Louisville, Ky.: My experience with this operation has been between thirty-five and forty cases—not enough to base a conclusion on; but I have had some little experience in post-operative infection. I have recently had two cases of late infection. In one case I used the Stevenson knife and split the cornea so as to place the trephine opening as far forward as possible. After the operation, the tissue fell back into position and the opening was apparently blocked entirely. You could just see the outline. There was a small bleb for a while, which overrode the cornea a little; but it gradually seemed to fill up, and the tension returned just the same as if it had not been there.

Dr. W. B. Lancaster, Boston, Mass.: I have come to the conclusion that the 1½ mm. trephine is large enough. Another reason for using one of this size is that you can get the hole away from the anterior chamber the better, the smaller the trephine. The larger the trephine, the more you must push it forward on the cornea. In regard to the lens's getting into the wound, I think that the commonest way that this happens is from the lens being injured by the trephine going in too far. The necessity of lifting the trephine in order to look at the cut, makes

it desirable to have a dark ring put on the instrument, about a mm. from the tip, so that you may see how far you are going in. One complication not mentioned is that of fistula through the conjunctiva. I saw one case of this last week.

Dr. W. R. Parker, Detroit, Mich.: In my experience, fifty-one per cent. of the cases in which a small iridectomy or no iridectomy was done, showed iritis, while only ten per cent. of the cases in which a complete iridectomy was performed, exhibited signs of iritis.

Dr. Wilder: I have been struck with the great frequency of irritation following this operation, even in cases done for us in Chicago by Col. Elliot. However, this is not necessarily an irritation that would lead to iritis. My experience shows pain present in a large number of these cases. Whether the pain and irritation are due to anything connected with the operation remains to be determined. One possible explanation of them is the tearing of the fibres of the cornea in attempting to split the cornea. I think the simplest trephine arrangement is the best, and I prefer one that you can remove once in a while, to see where you are going, taking the chance of getting into the same track again.

Dr. R. L. Randolph, Baltimore, Md.: In the last six cases of glaucoma simplex which I have met with since January, I have deliberately chosen the older operation. Two of these cases have slowly gone to the bad. The other four have done remarkably well, thus far. We have in these sclero-trephining operations conditions that, sooner or later, give rise to infection: a point of lessened resistance, an elevated point rubbed by the upper lid, and a region swarming with bacteria. I believe that the time will come, within the next three years, when, if it is possible to follow the cases reported by Elliot, it will be found that post-operative infections will be almost the rule.

Dr. Robert S. Lamb, Washington, D. C.: It has been my experience that if you have a thick sub-conjunctival tissue, the larger trephine is preferable. I have had to do a second trephining on some eyes, because the opening of the first operation was not sufficiently large to carry off the fluid.

Dr. Oscar Dodd, Chicago, Ill.: I have had an experience with between twenty and twenty-five cases of scleral trephining, and, with the exception of some on which I operated early, before Col. Elliot had published his final papers describing the operations more minutely, I have had uniformly good results. Col.

Elliot, at Chattanooga, last fall, stated that the trephining should be done at the same site as the iridectomy. My experience has been that not only is it very difficult to do this, but that the only failures that I have had were in the cases in which I attempted to do it. If it can be performed at that point, it is certainly much less dangerous, owing to the lessened tendency to infection.

DR. QUACKENBOSS (closing): In cases of simple chronic glaucoma, the ones for which I think the operation is indicated, I have noticed pain to be a feature. In the acute or inflammatory cases, the pain was not relieved by the operation. I have tried the different sizes of trephines and prefer to use the two mm. instrument; because I think it is easier to do an iridectomy with.

DR. STANDISH (closing): I want to speak to what has been called separation or detachment of the choroid. In several cases this happened. I once looked into the eye of an elderly man, and found that I was looking through a tunnel into the depths of the eye. On each side, corresponding to the width of the pupil, there was a detachment of the choroid that was apparently vertical; so that I looked in between two parallel walls. I gave this up as a hopeless case, and sent the patient home a few days later; but within a week or ten days afterwards, he came back. Looking into the eye, I found, to my surprise, that there was no detachment whatever visible.

Report of a Case of Detachment of the Retina Cured by Scleral Trephining, Associated with Incision of the Choroid.—DR. WALTER R. PARKER, Detroit, Mich.

The patient was a male, aged forty-six years, with a history of gradual loss of vision for one year. There was no history of trauma. The family history was negative, and the Wassermann and medical examinations were negative. The fields showed contraction of the upper inner quadrant, almost to the point of fixation. Ophthalmological examination showed a typical picture of retinal detachment, down in, extending almost to the macula. The sclera was trephined over the area of detachment and the presenting choroid incised with a cataract knife. The vision, which was 4/60 before operation, was increased to 6/12, and the fields of vision showed a contraction of only 10 degrees in the upper and inner quadrant. The condition has remained unchanged for five months.

DISCUSSION.

DR. WILLIAM ZENTMAYER, Philadelphia, Pa.: Two years ago I had under treatment a lad with detachment of the retina. All other things having failed, I resorted to trephining. The result was entirely nil. He had had the same process in the other eye, in which it had gone on to complete detachment. I had trouble because the eyeball was soft.

Report of a Series of Extractions of Cataract in the Capsule with Preliminary Subluxation of the Cataract with Capsule Forceps.—DR. ARNOLD KNAPP, New York City.

This method is easier and safer than Smith's extraction of the cataract in the capsule; but sub-luxation is not possible in all forms of cataract, because the capsule ruptures. The operation then is similar to one usually practised.

DISCUSSION.

DR. ANDREW TIMBERMAN, Columbus, Ohio: To those of us who have had some experience with the Smith operation, this is a decidedly interesting innovation. It appears to me that it may have decided advantages. I still think that there are a great many advantages in the operation as done by Lieutenant Colonel Smith. On the other hand, I am frank to say that I have tried the suggestion of Homer Smith, and find that it works admirably in certain cases. It appears to me, however, that the operation of Dr. Knapp may be an improvement over both of these. I should like to know whether Dr. Knapp ever has cases of luxation of the lens into the vitreous humor, on account of these manipulations; and if he has them, what he does for them.

DR. WEEKS: The success of any operative procedure in cataract extraction depends upon the degree of vision we obtain ultimately. Some fifteen years ago I reported one hundred cases of consecutive cataract extractions, by the simple and combined method, without removal in the capsule. In these cases 60 per cent had a vision of 22/20 minus, or better.

DR. C. F. CLARK, Columbus, Ohio: Though I grant that to remove the lens in its capsule is the ideal operation, yet I do not think that it can be performed in many cases. I do not think that Dr. Knapp made the distinction between mature and immature cataracts. I should like to learn from him the results in his

fourteen cases of immature cataract. It is very interesting to think that we shall some day find a means of dislocating the lens easily, and removing it in the capsule, in cases of immature cataract.

DR. KNAPP (closing): It is exactly in the hypermature cases that this procedure succeeds. I have had no experience with lenses getting into the vitreous as a result of this operation. The cases of Dr. Weeks are very marvelous, with sixty odd per cent. getting full vision. That is a very wonderful result. It is impossible, however, to compare that series with these cases; because these are two hundred and fifty extractions that succeed in forty to fifty per cent. You would have to say that you are talking about only the ones in which the operation succeeds. If it succeeds, there is no doubt but that you get perfectly normal vision. In these cases you can examine the eyes easily and see the condition of everything; because the pupil is dilated and there is no capsule. If the sight is not 20/20, you can find out the reason why. It was impossible to decide what role the immature cataracts played, except that they were practically not different from any others. In cases in which the lens is thick and of a bluish color, the capsule nearly always ruptures.

[*Continued in July issue.*]

ABSTRACT FROM MEDICAL LITERATURE.

By J. F. Shoemaker, M.D.,
St. Louis, Mo.

SPOROTRICHOSIS OF THE EYE.

William H. Wilder and Clifford P. McCollough (*Jour. A. M. A.*, April 11, 1914) report a case of sporotrichosis of the eye. It being but the second case of this disease of the eye reported in this country, and being similar in some respects in its clinical appearance to several other diseases of the eye, it is of considerable interest. The authors review briefly sixteen previously reported cases, and from a study of these and their own case they conclude "that infection of the conjunctiva by sporothrix causes a marked congestion of the membrane, particularly the palpebral portion, the fornix and the semilunar folds. The bulbar portion is not so frequently infected.

Numerous follicular prominences appear in the palpebral conjunctiva and in the fornix.

Small yellowish nodules, varying in size and shape, develop rapidly in the conjunctiva and these may ulcerate. When opened, the contents of the nodules do not escape rapidly as from small abscesses, but seem to be of a gummy consistence. These little nodules developed so rapidly in the case we observed that on the second day new ones presented that had not been seen the day before.

Secretion is rather scanty and hardly sufficient to stick the lids together at night, but lacrimation is rather abundant. The eyelids are somewhat œdematous and thickened, and palpation shows a well-marked induration of the subcutaneous tissue. Enlargement and tenderness of neighboring lymph-glands is also present.

Subjectively, there is a sensation of a foreign substance under the lids, and so much discomfort that use of the eyes is almost impossible. The discomfort comes on rapidly after the infection. The two cases of laboratory infection (that of Fava and the present one) and the absence of a history of trauma in the other cases, seem to show that the sporothrix is able to penetrate the normal conjunctiva. It also appears from the reports of cases that infection of the eye may be secondary to a generalized sporotrichosis. Probably in most of these cases the infection is

ectogenous, but the suspicion that it may be endogenous is aroused by the case of LaPersonne, in which, after a violent iridocyclitis and perforation of the eyeball, sporothrix was obtained from the contents of the bulb.

That general symptoms may arise from a primary lesion of the eye is indicated in our case by the fever, leukocytosis and pains in the bones of the extremities.

Concerning the diagnosis they say:

"Some of the clinical features of this infection are common to other conditions. Lymphadenopathy would be present with chancre of the conjunctiva, but in the initial lesion of syphilis it is very unusual to have such multiple erosions or ulcerations, and scrapings from such an ulcer would probably show the characteristic spirochete.

Tuberculosis of the conjunctiva would probably not be so rapid in its course, and it would be a week or more before the caseous tuberculous nodule would break down and form the ulcer, whereas in sporotrichosis the little ulcers develop in a few days.

Parinaud's conjunctivitis presents more points of similarity, and it is possible, as mentioned by Morax, that cases of sporotrichosis may have been mistaken for Parinaud's conjunctivitis.

In the latter, the vegetations on the conjunctiva are different from the follicles and the yellowish nodules of sporotrichosis. The adenopathy in Parinaud's conjunctivitis points to a severe infection, but all attempts to isolate an organism from the lesions have failed. Recently, however, Verhoeff has observed in such conditions an organism like leptothrix. On the other hand, the diagnosis of sporotrichosis is easy if scrapings from the nodules or ulcers are inoculated on appropriate mediums and left at from 18 to 20 C, for the organisms appear in from three to ten days. The presence of Gram-positive, spore-like bodies in a direct smear from the conjunctiva should suggest sporothrix."